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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/088,155 | 03/12/2002 | Jiri Nesveda | 321402000200 | 9945 |

7590 04/06/2004

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EXAMINER

MILLER, EDWARD A

| ART UNIT | PAPER NUMBER |
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3641

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,155

Applicant(s)

NESVEDA ET AL.

Examiner

Edward A. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,7 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 11 and 13-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-3,5,7 and 11-18 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Nov 18, 2003 has been entered.

2. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

A: nitrocellulose (organic soluble) binder

B: water soluble binders

Applicant is required, in reply to this action, to elect single species A to which the claims shall be restricted if no generic claim is finally held to be allowable.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

3. The claims are deemed to correspond to the species listed above in the following manner:

Species A: claims 5 and 12, and

Species B: claims 13-14 and 17-18.

The following claim(s) are generic: 1-3, 7, 11, 15-16.

4. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: they are mutually exclusive bonding agents. Further, there is no common special technical feature, in accordance with PCT Rule 13.2 which states that:

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The term "special technical features" is defined as meaning those technical features that define a contribution which each of the inventions considered as a whole, makes over the prior art.

Here, there is no contribution of any "special technical features" such alleged over the prior art.

5. Newly amended claims 5 and 12 are directed to an invention that lacks a common special technical feature from the invention originally claimed for the reasons set forth above.

Since applicant has received an action on the merits for the originally presented invention, in this RCE which is limited to the invention originally examined, the original invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 5 and 12 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-3, 7, 11 and 13-18 are rejected under 35 U.S.C. 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.

The claims remain generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical, idiomatic and patent law errors. Complete revision of the claims to be in accord with US practice is again required. Note the following exemplary deficiencies.

It is not clear what applicants intend by their category language. Newly presented is "free of a dinol type explosive." The term "type" renders this expression indefinite. See MPEP 2173.05(b), wherein one finds:

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The addition of the word "type" to an otherwise definite expression (e.g., Friedel-Crafts catalyst) extends the scope of the expression so as to render it indefinite. *Ex parte Copenhaver*, 109 USPQ 118 (Bd. App. 1955).

Further, the addition of "containing" to this phrase changes the prior meaning so that this is not limited to being free of a single explosive ingredient, but at least to any composition "containing" dinol. Thus, it is not clear what is excluded among all the ingredients in dinol type explosives, many of which are apparently intended herein. What is intended in claim 1, line 2, e.g., as the "explosive"? The broad genus of "nitroester or nitramine containing explosive" includes liquid compounds, solid compounds, and also high polymers with such functional groups such as nitrocellulose (ester) or nitramine substituted oxetane polyethers, as nominal examples. There is no limitation on the amount of the -ONO_2 or $\text{N-(NO}_2\text{)}$ moiety content, which literally could include one nitrate group, for example, on a polymer of MW 20,000. Is this intended? It appears that the broad term and the details within are not consistent, or this is not clear. In such a way, the metes and bounds of the claims cannot be determined. Nitrocellulose is a high explosive in claim 2, but in (for example) claims 13 and 17, nitrocellulose is also a binder. Thus, the amounts permitted for such ingredients in more than one category are unclear. Further, if one compound may be present in more than one category, then surely others may also be similarly used. This renders the amounts for the stated categories indefinite. In short, the metes and bounds of the claims cannot be discerned. Do applicants intend that claims 13-14 and 17-18 be drawn to intermediate compositions containing acetone? These remain representative, complete revision is again required.

8. Claims 1-3, 7, 11 and 13-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to

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one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

See the rejection above in paragraph 7. It is not clear that the specification describes the invention adequately to support the claims. This includes the new limitation of "free of dinol type explosive," basis for which is not apparent. No new matter may be added to correct deficiencies. It does not appear that the broad terms of the claims are adequately disclosed to enable practice of the invention without undue experimentation. The invention is enabled and described only to a small extent. However, both are lacking in the large context of the claim language. See MPEP 2164.01:

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). See also, *United States v. Telectronics Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) ("The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.").

One looks to the *Wands* factors, as follows:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

This is apparent to anyone of ordinary skill in the art. The disclosure and claims are very broad.

Further, in this area, the need for detail, e.g., unpredictability, is great. The results obtained are critically dependent on these details. In the case of ammunition, the instant art area, if a primer does not go off when needed, "our" soldier may be killed by the "enemy" soldier. In a hunting context,

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the hunter does not have the bear for dinner, the bear eats the hunter for dinner. In the alternative, imagine a person with a quantity of ammunition, which goes off spontaneously, not intended, and also causing damage, injury or loss of life. It does not require genius to know the criticality of compositions in this area. These are matters of life and death, as to criticality and unpredictability. In the instant case, there are only a limited range of specification examples, and most of the same general type. These do not relate to the great breadth of the claims, but only to a small subset thereof. All the specification examples contain tetrazene and the amounts are all between 25-35%, nothing as low as 5% as claimed. All the examples include explosives of tetryl, penthrite (PETN) or "hexogene" (RDX). All the amounts are also generally in similar amounts, 15-25%, except for the last example, with only 7.5%. HMX and RDX are recognized as generally similar, but there are no examples with nitrocellulose or hexanitromannite, which are distinct, nor are there any other examples of the multitudes of nitrate esters or nitramines including polymers as set for above. There is no hint of what other types of such explosives require, as to amounts, or even the possibility of whether they even work. All the examples with nitrocellulose, include fractional % amounts, e.g., binder amounts (last line of claim 1) as opposed to explosive amounts (claim 1, lines 3-4). Although the listing of oxidizing agents is improved, there is insufficient support for the broad range of amounts, from 5-50%. Applicants' own specification, in the background art area, points to the number of problems with finding suitable ignition compositions that avoid the problems of the prior art. This unpredictability was well known to applicants.

9. Claims 1-3, 7, 11 and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mei et al. '252, in view of Erickson et al. and Mei et al. '736.

Mei et al. '252 teach the basic invention in col. 3, lines 8-22 and 38-43, of a nontoxic primer mix of about 10% boron, 10% tetrazene, 20% of, e.g., PETN or nitrocellulose, and 5-40%, e.g., 27%

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of iron oxide. Although a friction agent is not expressly taught as such, boron has a certain amount of this property, and thus this is deemed to meet the claim requirement. See col. 2, lines 35-42, as to boron and sensitivity, and that it would be obvious to add ground glass is needed, as for instant claim 7. As to this, see Erickson et al., col. 3, lines 55-56, where boron is a frictionator. Further, the overlap of nitrocellulose as fuel and binder suggests that one ingredient may provide several functions. Erickson et al. and Mei et al. '736 further suggest that the ingredients and amounts may be varied to some extent, as suggested therein. As to claim 5, 12-14, 17 and 18, the bonding agent is optional, and for this rejection the examiner construes the claims in their broadest reasonable construction, omission thereof. Thus, these claims do not define over the prior art. To the extent appropriate, variation of specific well known ingredients and amounts would have been obvious to one of ordinary skill in the art. As to the broad claims, note that Mei et al. '252 may be the epitome of obviousness, anticipation. *In re Pearson*, 181 USPQ 641 (CCPA 1974). Also, it is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

10. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163. Examiner Miller may normally be reached Monday-Thursday, from 10 AM to 7 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor Mr. Carone can be reached at (703) 306-4198.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
April 4, 2004



EDWARD A. MILLER
PRIMARY EXAMINER